

Silver Dollar Fish (*Mylossoma duriventre*)

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, November 2023

Revised, January 2024

Web Version, 5/5/2026

Organism Type: Fish

Overall Risk Assessment Category: Uncertain

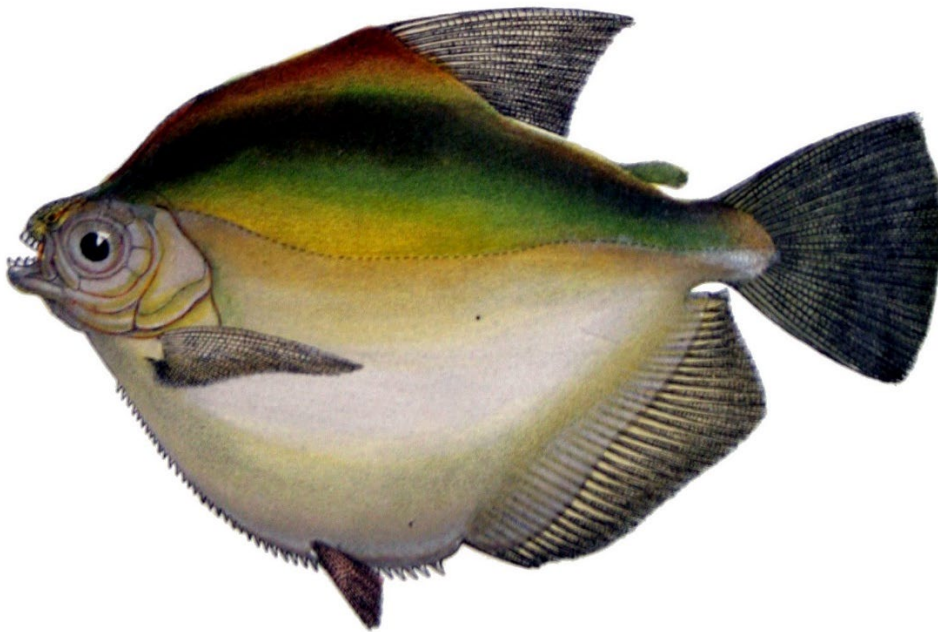


Image: François-Louis Laporte, comte de Castelnau. Public domain. Available: https://commons.wikimedia.org/wiki/File:Mylossoma_duriventre_de_Castelnau.jpg (November 2023).

1 Native Range and Status in the United States

Native Range

From Mateussi et al. (2018):

“*Mylossoma duriventre* is known from the rio Paraguai, lower Paraná and lower Uruguai rivers basins [Argentina, Brazil, Paraguay, Uruguay].”

Status in the United States

No records of *Mylossoma duriventre* in the wild in the United States were found.

M. duriventre is in trade within the United States (e.g., Aqua Imports 2023; Bluegrass Aquatics 2023).

Regulations

M. duriventre is regulated in Hawaii (HDOA 2019). Please refer back to state agency regulatory documents for details on the regulations, including restrictions on activities involving this species. While effort was made to find all applicable regulations, this list may not be comprehensive. Notably, it does not include regulations that do not explicitly name this species or its genus or family, for example, when omitted from a list of authorized species with blanket regulation for all unnamed species.

Means of Introductions within the United States

No records of *Mylossoma duriventre* in the wild in the United States were found.

Remarks

This ERSS was previously published in July 2014 under the scientific name *Mylossoma duriventris*. Revisions were completed to incorporate new information and conform to updated standards.

From Mateussi et al. (2018):

“[...] records of *M. duriventre* from the Amazonas, Orinoco and Tocantins-Araguaia basins are herein considered as incorrect and referable to *M. albiscopum* (Amazonas and Orinoco) or *M. unimaculatum* (Tocantins-Araguaia). The inability of previous authors in recognizing the distinction of these three species resulted in accounts mixing specimens of more than one species, as in Eigenmann (1915) and Norman (1929).”

Effort was made to include information in this ERSS attributable only to the current taxonomic definition of *M. duriventre*. However, some information referring to other species of *Mylossoma* may have been included inadvertently, having been recorded under a previous definition of the species *M. duriventre*.

Mention of commercial products in this Ecological Risk Screening Summary does not entail endorsement by the U.S. Federal Government.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From Froese and Pauly (2023a):

Animalia (Kingdom) > Chordata (Phylum) > Vertebrata (Subphylum) > Gnathostomata (Infraphylum) > Osteichthyes (Parvphylum) > Actinopterygii (Gigaclass) > Actinopteri

(Superclass) > Teleostei (Class) > Characiformes (Order) > Serrasalminidae (Family) > *Mylossoma* (Genus) > *Mylossoma duriventre* (Species)

According to Fricke et al. (2023), *Mylossoma duriventre* (Cuvier 1818) is the current valid name for this species.

The following synonyms of *Mylossoma duriventre* from Fricke et al. (2023) were used to search for information for this report: *Myletes duriventris*, *Mylossoma duriventris*.

Size, Weight, and Age Range

From Froese and Pauly (2023b):

“Max length: 25.0 cm SL [standard length] male/unsexed; [Jégu 2003]; max. published weight: 1.0 kg.”

Environment

From Froese and Pauly (2023b):

“Freshwater; benthopelagic; pH range: 5.0 - 7.8; dH range: ? - 20; potamodromous [Riede 2004]. [...] 22°C - 28°C [Riehl and Baensch 1991; assumed to represent recommended aquarium water temperature].”

From Mateussi et al. (2018):

“[...] highly dependent from [sic] the floodplains [...]”

From Brejão (2023):

“One potentially important adaptation exhibited by this species is its ability to persist in waters with very low oxygen content.”

Climate

From Froese and Pauly (2023b):

“Tropical [...]”

Distribution Outside the United States

Native

From Mateussi et al. (2018):

“*Mylossoma duriventre* is known from the rio Paraguai, lower Paraná and lower Uruguai rivers basins [Argentina, Brazil, Paraguay, Uruguay].”

Introduced

According to Froese and Pauly (2026), *Mylossoma duriventre* has been introduced to the Philippines. Its establishment status there is unknown.

Means of Introduction Outside the United States

From Froese and Pauly (2026):

“Reason [for introduction]: ornamental.”

Short Description

From Mateussi et al. (2018):

“Body deep, compressed laterally. Dorsal profile slightly concave at posterior region of head and convex between head and dorsal fin. Ventral profile convex; slightly concave at isthmus and strongly convex from this point to end of anal fin. Highest body depth on vertical line passing through dorsal- and pelvic-fins origins. Caudal peduncle as deep as long.”

“Eyes lateral at middle of head; upper margin of eyes below longitudinal axis of lateral-line origin. Frontal and parietal fontanel broadly expanded laterally. Snout short and rounded on lateral view. Nostrils dorsolaterally positioned, above longitudinal axis through upper margin of eye.”

“Mouth terminal to slightly upturned, at same level of orbits. Premaxilla projected forward, with inner premaxillary row over or surpassing dentary teeth. Premaxillary teeth molariform with robust base; outer portion of anteriormost three teeth of outer row and posterior portion of remaining teeth pointed. Inner premaxillary row with two teeth, separated from outer row. Outer premaxillary row with five teeth. Dentary with four or five tricuspid, robust, molariform teeth; symphyseal dentary teeth present, with robust base and large conical cusp, behind main row [...]. Maxilla edentulous.”

“Body completely covered by small cycloid scales. Accessory scales covering intersections of major scales, mainly at anterior portion of body. Lateral line complete, [...].”

“General body color silvery, darker dorsally; yellowish pigmentation on ventral portion of chest and head; region around eyes orange. Presence of a black blotch on opercle. Anal fin yellow or orange, with a black band on distal margin; caudal fin with an orange band on distal margin; remaining fins hyaline; several vertical grey bands on flanks [...].”

Biology

From Brejão (2023):

“The species is noted to be a fast growing species and as such has an increased ability to recover from high mortality due to wild harvest.”

“The species is herbivorous, consuming leaves, fruits, and seeds (Resende et al. 1998).”

Human Uses

From Mateussi et al. (2018):

“[...] presenting a great economic importance for both commercial and sport fisheries (Resende et al. 1998; Sverlij et al. 1998; Chernoff et al. 2001).”

M. duriventre is in trade within the United States (e.g., Aqua Imports 2023; Bluegrass Aquatics 2023).

From Brejão (2023):

“Uses include commercial fisheries, commercial aquariums and local fish consumption.”

Diseases

No information was found associating *Mylossoma duriventre* with any diseases listed by the World Organisation for Animal Health (2023).

According to Poelen et al. (2014), *Mylossoma duriventre* is a host for the parasites *Echinorhynchus salobrensis* and *Anacanthorus paraspathulatus*.

Threat to Humans

From Froese and Pauly (2023b):

“Harmless.”

3 Impacts of Introductions

No information was available on actual impacts of introductions.

Mylossoma duriventre is regulated in Hawaii (HDOA 2019). See section 1.

4 History of Invasiveness

The History of Invasiveness for *Mylossoma duriventre* is classified as No Known Nonnative Population. This species has been transported beyond its native range due to the aquarium trade and is reported as popular for commercial and sport fisheries. However, the volume and duration of trade is unknown. The introduction of *Mylossoma duriventre* has been reported in the Philippines, but no established population has been documented.

5 Global Distribution



Figure 1. Reported global distribution of *Mylossoma duriventre*. Map from GBIF Secretariat (2023). Observations are reported from Argentina, Bolivia, Brazil, Colombia, Ecuador, Paraguay, Peru, and Venezuela. Only observations from the Paraguay, Parana, and Uruguay River Basins (southwestern Brazil, Paraguay, Uruguay, and Argentina) were included in the climate matching analysis; other observations likely represent populations that are no longer identified as *M. duriventre* (see Remarks; Mateussi et al. 2018).

6 Distribution Within the United States

No records of *Mylossoma duriventre* in the wild in the United States were found.

7 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Mylossoma duriventre* to the contiguous United States was high along the Gulf Coast from Texas to Florida and reaching up the Atlantic Coast to New Jersey. There was another area of high match extending from south-central Texas through central Oklahoma to southwestern Missouri. Medium climate matches occurred across the Southern Plains, southern Midwest, and in limited areas of the Southwest and the Western Mountains. The remainder of the contiguous United States had a low climate match. The overall Climate 6 score (Sanders et al. 2023; 16 climate variables; Euclidean distance) for the contiguous United States was 0.333, indicating that Yes, there is establishment concern. The Climate 6 score is calculated as: (count of target points with scores ≥ 6)/(count of all target points). Establishment concern is warranted for Climate 6 scores greater than or equal to 0.002 based on an analysis of the establishment success of 356 nonnative aquatic species introduced to the United States (USFWS 2024).

Projected climate matches in the contiguous United States under future climate scenarios are available for *Mylossoma duriventre* (see Appendix). These projected climate matches are provided as additional context for the reader; future climate scenarios are not factored into the Overall Risk Assessment Category.



Species: *Mylossoma duriventris*

Selected Climate Stations ●



RAMP

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Figure 2. RAMP (Sanders et al. 2023) source map showing weather stations in South America selected as source locations (red; Argentina, Brazil, Paraguay, and Uruguay) and non-source locations (gray) for *Mylossoma duriventris* climate matching. Source locations from GBIF Secretariat (2023). Selected source locations are within 100 km of one or more species occurrences, and do not necessarily represent the locations of occurrences themselves.

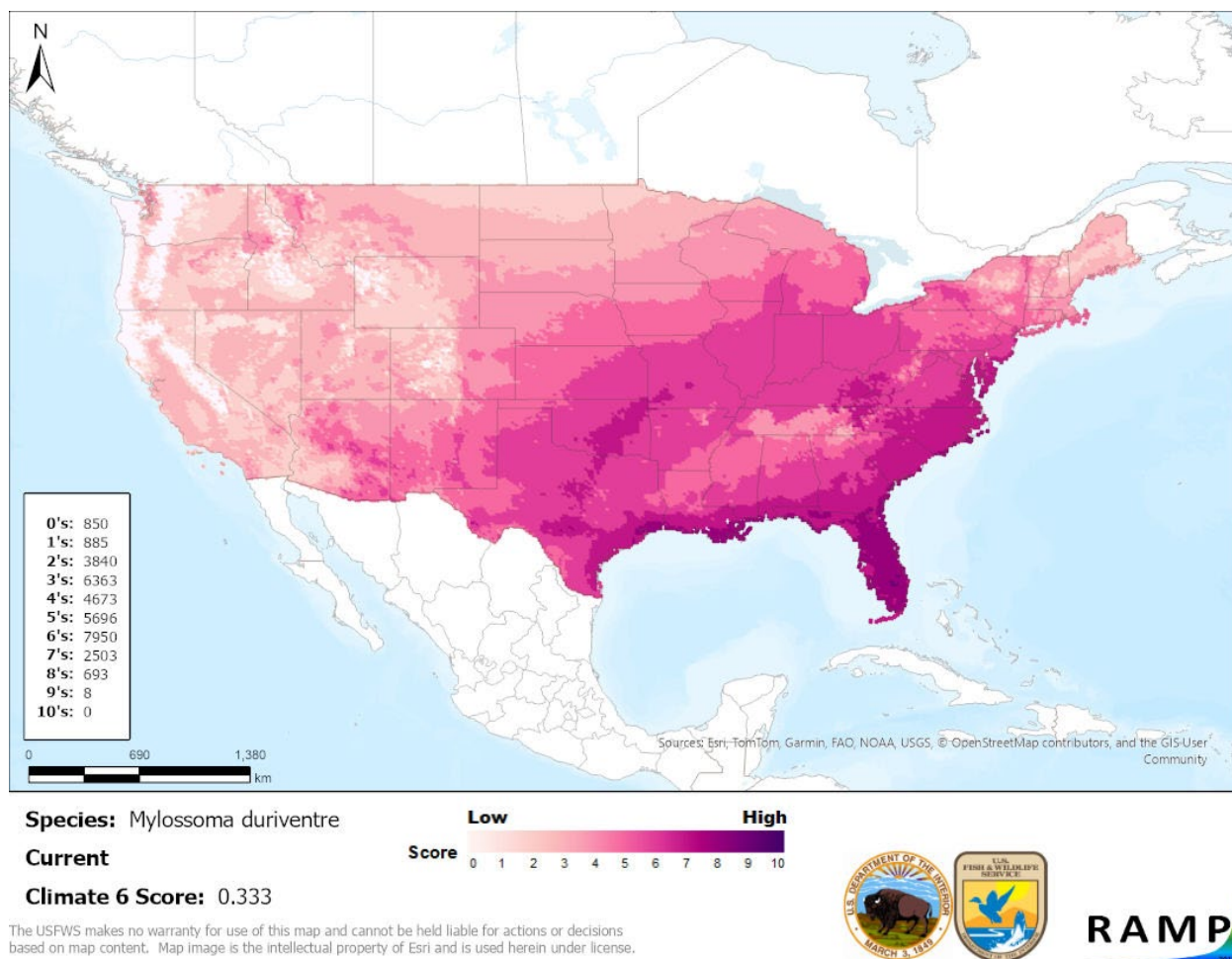


Figure 3. Map of RAMP (Sanders et al. 2021) climate matches for *Mylossoma duriventre* in the contiguous United States based on source locations reported by GBIF Secretariat (2023). Counts of climate match scores are tabulated on the left. 0/Pale Pink = Lowest match, 10/Dark Purple = Highest match.

8 Certainty of Assessment

The Certainty of Assessment for *Mylossoma duriventre* is classified as Low. Despite a report of introduction in the Philippines, no information was found addressing establishment or impacts of introduction. There is also little information available regarding the extent of trade for *Mylossoma duriventre*. Additional uncertainty is due to the recent redescription of the species that limited its distribution such that older sources of information referring to *M. duriventris* may actually refer to a different species under the current taxonomic understanding.

9 Risk Assessment

Summary of Risk to the Contiguous United States

Mylossoma duriventre, Silver Dollar Fish, is a fish native to the Paraguay, Parana, and Uruguay River Basins of central South America. It is an herbivorous fish found in freshwater floodplain habitats and is reported to be tolerant of low oxygen conditions. *M. duriventre* is a popular target

for commercial and sport fishing in its native range and can be found for purchase online from aquarium retailers. The History of Invasiveness for *Mylossoma duriventre* is classified as No Known Nonnative Population due to the lack of known established populations outside its native range and limited available information on the true extent of its trade. The climate matching analysis for the contiguous United States indicates establishment concern for this species; high climate matches were found along the Gulf Coast, Atlantic Coast, and in the Southern Plains. The Certainty of Assessment for this ERSS is classified as Low due to limited information on introductions, impacts, and trade history, as well as the confusion caused by recent taxonomic work that narrowed the definition of the species. The Overall Risk Assessment Category for *Mylossoma duriventre* in the contiguous United States is Uncertain.

Assessment Elements

- **History of Invasiveness (Section 4): No Known Nonnative Population**
- **Establishment Concern (Section 7): Yes**
- **Certainty of Assessment (Section 8): Low**
- **Remarks, Important additional information: None**
- **Overall Risk Assessment Category: Uncertain**

10 Literature Cited

Note: The following references were accessed for this ERSS. References cited within quoted text but not accessed are included below in section 11.

Aqua Imports. 2023. Silver *Mylossoma* (*Mylossoma duriventre*). Aqua Imports. Available: <https://www.aqua-imports.com/product/silver-mylossoma-mylossoma-duriventre/> (November 2023).

Bluegrass Aquatics. 2023. *Mylossoma* silver dollar - regular. Bluegrassaquatics.com. Available: <https://bluegrassaquatics.com/mylossoma-silver-dollar-regular-1.html> (November 2023).

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Fricke R, Eschmeyer W, van der Laan R, editors. 2023. Eschmeyer's catalog of fishes: genera, species, references. California Academy of Science. Available: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp> (November 2023).

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- World Organisation for Animal Health. 2023. Animal diseases. Paris: World Organisation for Animal Health. Available: <https://www.woah.org/en/what-we-do/animal-health-and-welfare/animal-diseases/> (November 2023).

11 Literature Cited in Quoted Material

Note: The following references are cited within quoted text within this ERSS, but were not accessed for its preparation. They are included here to provide the reader with more information.

- Chernoff B, Willink PW, Montambault JR. 2001. A biological assessment of the aquatic ecosystems of the río Paraguay basin, Alto Paraguay, Paraguay. Pages 1–156 in Chernoff B, Willink PW, Montambault JR, editors. *RAP bulletin of biological assessment*. Volume 19. Washington: Conservation International.
- Eigenmann CH. 1915. The Serrasalminae and Myleinae. *Annals of the Carnegie Museum* 9:226–272.
- Jégu M. 2003. Serrasalminae (pacus and piranhas). Pages 182–196 in Reis RE, Kullander SO, Ferraris CJ Jr., editors. *Checklist of the freshwater fishes of South and Central America*. Porto Alegre, Brazil: EDIPUCRS.

- Norman JR. 1929. The South American Characid fishes of the subfamily Serrasalmoninae with a revision of the genus *Serrasalmus* Lacepede. Proceedings of the Zoological Society of London 52:781–829.
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Appendix

Summary of Future Climate Matching Analysis

Future climate projections represent two Shared Socioeconomic Pathways (SSP) developed by the Intergovernmental Panel on Climate Change (IPCC 2021): SSP5, in which emissions triple by the end of the century; and SSP3, in which emissions double by the end of the century. Future climate matches were based on source locations reported by GBIF Secretariat (2023).

Under the future climate scenarios (figure A1), on average, high climate match for *Mylossoma duriventre* was projected to occur in the Southern Atlantic Coast and Southern Florida regions of the contiguous United States. Areas of low climate match were projected to occur in the Great Basin and Western Mountains regions. Almost all of the eastern contiguous United States remained as a medium to high match across all scenarios, although the areas of highest match decreased in extent under more extreme scenarios. The Climate 6 scores for the individual future scenario models (figure A2) ranged from a low of 0.126 (model: UKESM1-0-LL, SSP5, 2085) to a high of 0.399 (model: MRI-ESM2-0, SSP3, 2085). All future scenario Climate 6 scores were above the Establishment Concern threshold, indicating that Yes, there is establishment concern for this species under future scenarios. The Climate 6 score for the current climate match (0.333, figure 3) falls within the range of scores for future projections. The time step and climate scenario with the most change relative to current conditions was SSP5, 2085, the most extreme climate change scenario. At time step 2085, areas within the northern Great Lakes saw a large increase in the climate match relative to current conditions. Under one or more time step and climate scenarios, areas within the Colorado Plateau, Northeast, Northern Plains, and Western Mountains saw a moderate increase in the climate match relative to current conditions. Primarily under the SSP5, 2085 scenario, areas within the Appalachian Range, Gulf Coast, Mid-Atlantic, Southeast, Southern Florida, Southern Plains, and Southwest saw a moderate decrease in the climate match relative to current conditions. No large decreases were observed regardless of time step and climate scenarios. Additional very small areas of large or moderate change may be visible on the maps (figure A3).

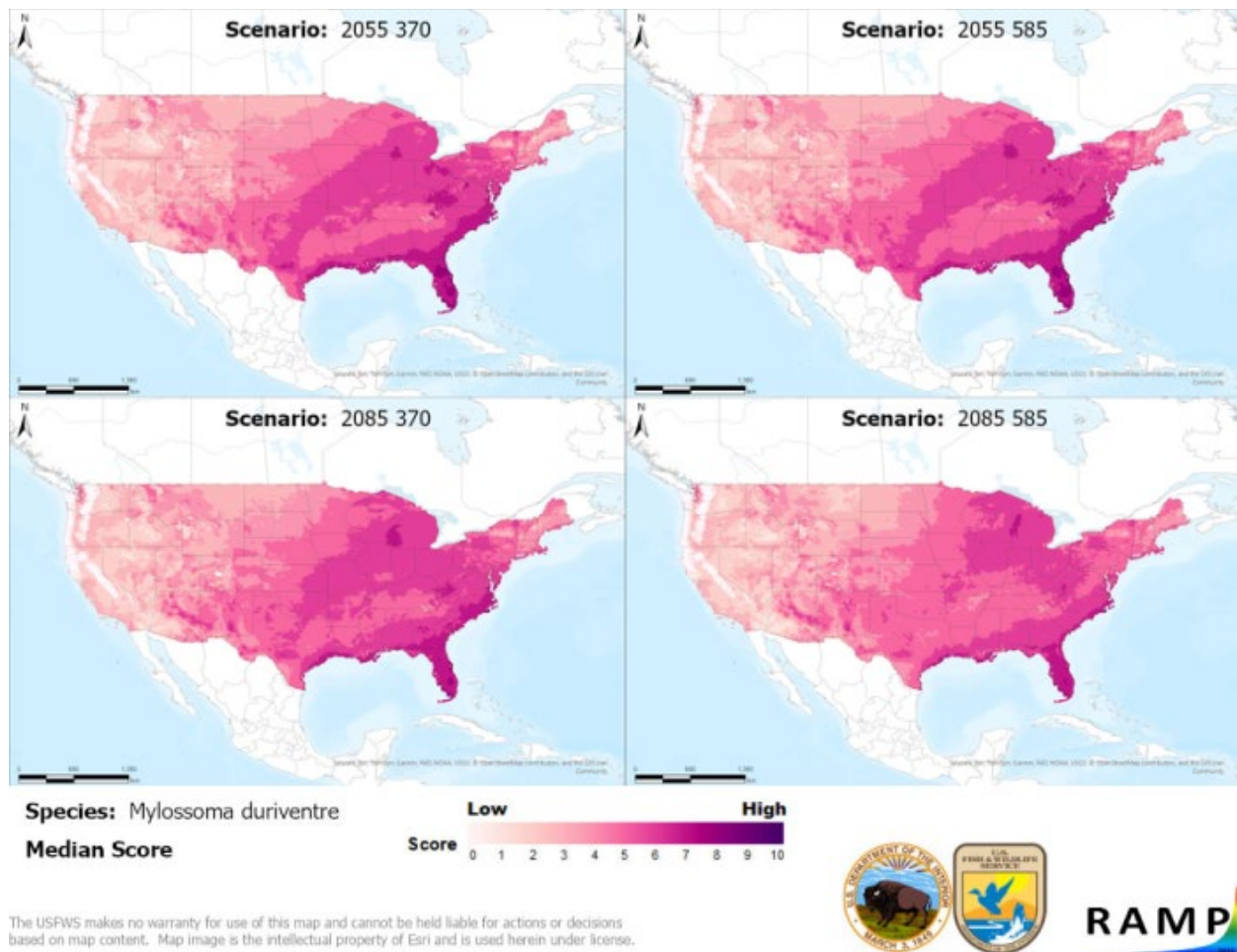


Figure A1. Maps of median RAMP (Sanders et al. 2023) climate matches projected under potential future climate conditions using five global climate models for *Mylossoma duriventre* in the contiguous United States. Climate matching is based on source locations reported by GBIF Secretariat (2023). Shared Socioeconomic Pathways (SSPs) used (from left to right): SSP3, SSP5 (IPCC 2021). Time steps: 2055 (top row) and 2085 (bottom row). Climate source data from CHELSA (Karger et al. 2017, 2018); global climate models used: GFDL-ESM4, UKESM1-0-LL, MPI-ESM1-2-HR, IPSL-CM6A-LR, and MRI-ESM2-0. 0/Pale Pink = Lowest match, 10/Dark Purple = Highest match.

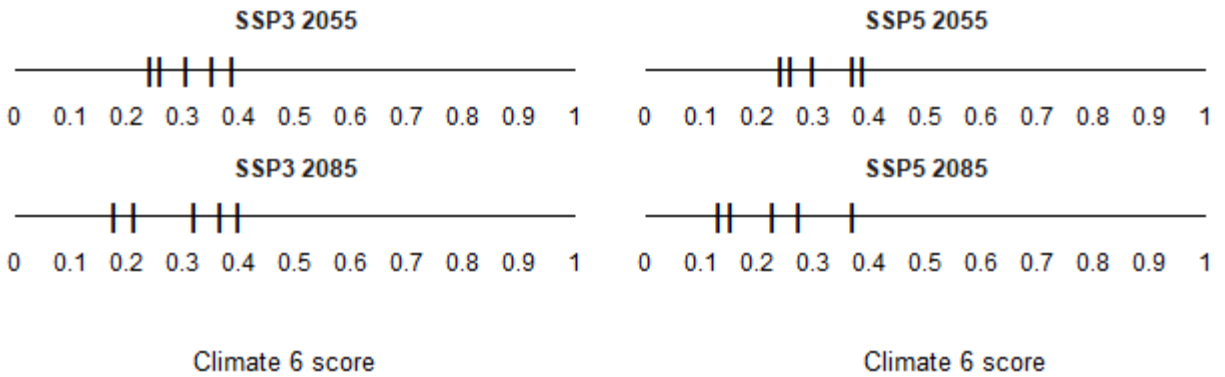


Figure A2. Comparison of projected future Climate 6 scores for *Mylossoma duriventre* in the contiguous United States for each of five global climate models under four combinations of Shared Socioeconomic Pathway (SSP) and time step. SSPs used (from left to right): SSP3, SSP5 (Karger et al. 2017, 2018; IPCC 2021). Time steps: 2055 (top row) and 2085 (bottom row). Climate source data from CHELSA (Karger et al. 2017, 2018); global climate models used: GFDL-ESM4, UKESM1-0-LL, MPI-ESM1-2-HR, IPSL-CM6A-LR, and MRI-ESM2-0.

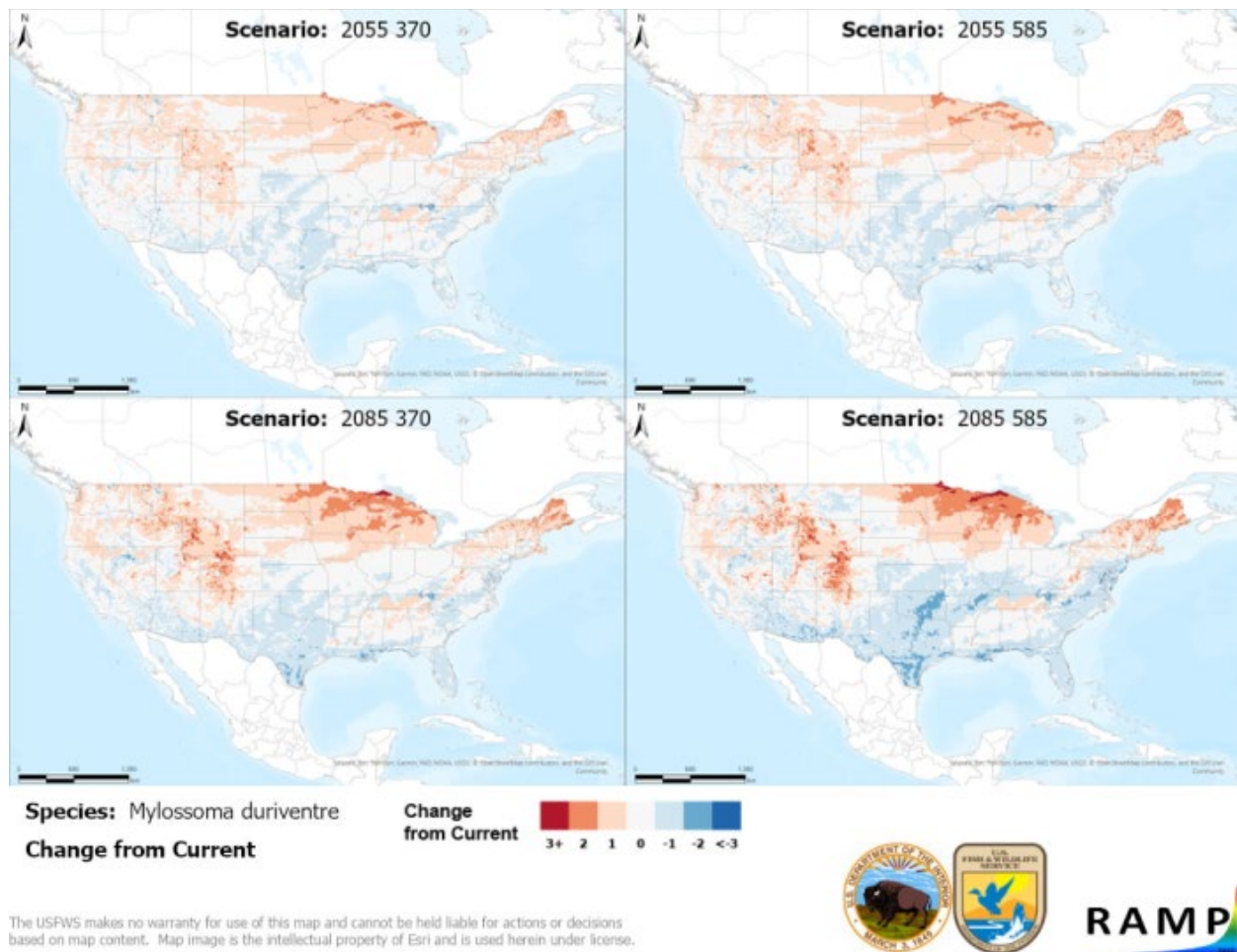


Figure A3. RAMP (Sanders et al. 2023) maps of the contiguous United States showing the difference between the current climate match target point score (figure 3) and the median target point score for future climate scenarios (figure A1) for *Mylossoma duriventre* based on source locations reported by GBIF Secretariat (2023). Shared Socioeconomic Pathways (SSPs) used (from left to right): SSP3, SSP5 (IPCC 2021). Time steps: 2055 (top row) and 2085 (bottom row). Climate source data from CHELSA (Karger et al. 2017, 2018); global models used: GFDL-ESM4, UKESM1-0-LL, MPI-ESM1-2-HR, IPSL-CM6A-LR, and MRI-ESM2-0. Shades of blue indicate a lower target point score under future scenarios than under current conditions. Shades of red indicate a higher target point score under future scenarios than under current conditions. Darker shades indicate greater change.

Literature Cited

- GBIF Secretariat. 2023. GBIF backbone taxonomy: *Mylossoma duriventre*. Copenhagen: Global Biodiversity Information Facility. Available: <https://www.gbif.org/species/2352710> (April 2026).
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